

*Suit  
A3*

WHAT IS CLAIMED IS:

1. A method for establishing a telephone call between a trusted Internet Protocol (IP) telephone and an untrusted device, the method comprising:

5 receiving a call initiation request from an untrusted device, the call initiation request indicating a desired communication with a trusted IP telephone;

evaluating the call initiation request; and

10 establishing a telecommunication link between the untrusted device and the trusted IP telephone in response to a positive evaluation of the call initiation request, wherein establishing the telecommunication link comprises:

associating a first logical port of a telephony proxy with the trusted IP telephone;

15 associating a second logical port of the telephony proxy with the untrusted device;

receiving first telecommunication data from the untrusted device at the first logical port;

20 modifying a first source address information in the first telecommunication data to specify the second logical port of the telephony proxy;

communicating the first telecommunication data with the modified first source address information to the trusted IP telephone;

25 receiving second telecommunication data from the trusted IP telephone at the second logical port;

modifying a second source address information in the second telecommunication data to specify the first logical port of the telephony proxy; and

30 communicating the second telecommunication data with the modified second source address information to the

ATTORNEY'S DOCKET  
062891.0292

PATENT APPLICATION

28

Sub  
a3

untrusted device.

*Sub  
A3*

2. A method for establishing a telephone call between a trusted Internet Protocol (IP) telephone and an untrusted device, the method comprising:

5 receiving a call initiation request from an untrusted device, the call initiation request indicating a desired communication with a trusted IP telephone;

evaluating the call initiation request; and

10 establishing a telecommunication link between the untrusted device and the trusted IP telephone in response to a positive evaluation of the call initiation request.

15 3. The method of Claim 2, wherein receiving a call initiation request from the untrusted device comprises intercepting a call initiation request at an entry point to a trusted network servicing the trusted IP telephone, the call initiation request sent from outside the trusted network by the untrusted device.

20 4. The method of Claim 2, wherein evaluating the call initiation request comprises determining whether the trusted IP telephone is a proper recipient of a telephone call from an untrusted device.

25 5. The method of Claim 4, wherein determining whether the trusted IP telephone is a proper recipient of a telephone call from an untrusted device comprises determining whether a network address of the trusted IP telephone is included in a list of approved network addresses.

30

*Suit  
a3*

6. The method of Claim 2, wherein evaluating the call initiation request comprises determining whether a network address of the untrusted device is included in a list of approved network addresses.

5

7. The method of Claim 2, wherein evaluating the call initiation request comprises determining whether the untrusted device is requesting the establishment of media streaming with the trusted IP telephone.

10

8. The method of Claim 2, wherein establishing a telecommunication link between the untrusted device and the trusted IP telephone comprises establishing a telecommunication link using a telephony proxy, whereby all telecommunications between the trusted IP telephone and the untrusted device are communicated through the telephony proxy.

15

9. The method of Claim 8, further comprising monitoring the telecommunication link to determine whether the telecommunications being sent by the untrusted device use an appropriate audio format.

20

10. The method of Claim 8, further comprising monitoring the telecommunication link to determine whether the telecommunications being sent by the untrusted device comprise media streaming.

25

*Sub  
A3*

11. The method of Claim 8, wherein establishing a telecommunication link between the untrusted device and the trusted IP telephone using the telephony proxy comprises:

5 associating a first logical port of the telephony proxy with the trusted IP telephone;

receiving telecommunication data from the untrusted device at the first logical port;

10 modifying source address information in the received telecommunication data to specify a second logical port of the telephony proxy associated with the untrusted device; and

15 communicating the telecommunication data with the modified source address information to the trusted IP telephone.

20 12. The method of Claim 11, wherein associating a first logical port of the telephony proxy with the untrusted device comprises associating a User Datagram Protocol (UDP) logical port to enable the streaming of IP packets.

25 13. The method of Claim 12, wherein modifying the source address information in the received telecommunication data comprises modifying a source IP address and a source port in a header of each IP packet.

*Su  
a3*

14. A communication network for establishing a telephone call between a trusted telephone and an untrusted device, the communication network comprising:

- a first trusted network;
- 5 a trusted telephone coupled to the first trusted network;
- an authentication controller coupled to the first trusted network and operable to evaluate a call initiation request received from an untrusted device external to the first trusted network, the call initiation request indicating a desired communication with the trusted telephone; and
- 10 a call manager operable to initiate the creation of a telecommunication link between the trusted telephone and the untrusted device in response to a positive evaluation of the call initiation request.

15. The communication network of Claim 14, wherein the call manager is further operable to initiate the creation of a telecommunication link between the trusted telephone and the untrusted device using a telephony proxy, whereby all telecommunications between the trusted telephone and the untrusted device are communicated through the telephony proxy.

20  
25 16. The communication network of Claim 15, wherein the telephony proxy, the authentication controller, and the call manager comprise software executed on one or more devices in the first trusted network.

*SAC*  
17. The communication network of Claim 14, wherein the authentication controller is a component of the call manager.

5        18. The communication network of Claim 14, wherein:  
            the first trusted network comprises an Internet Protocol (IP) network; and  
            the trusted telephone comprises an IP telephone.

10        19. The communication network of Claim 14, wherein the first trusted network and the untrusted device are coupled to the Internet.

15        20. The communication network of Claim 14, wherein:  
            the first trusted network is coupled to the Public Switched Telephone Network (PSTN) using a gateway; and  
            the untrusted device is coupled to the PSTN.

20        21. The communication network of Claim 14, further comprising:  
            a second trusted network, the untrusted device coupled to the second trusted network; and  
            an untrusted network coupling the first trusted network to the second trusted network.

*SAC*

22. The communication network of Claim 14, wherein the authentication controller comprises a list of addresses of network devices permitted to receive telephone calls from untrusted devices, the authentication controller evaluating a call initiation request positively if the call initiation request indicates a desired communication with a network device having an address in the list of network addresses.

10           23. The communication network of Claim 14, wherein the authentication controller comprises a list of network addresses of untrusted devices permitted to communicate with the trusted telephone, the authentication controller evaluating a call initiation request positively if the call initiation request originates from an untrusted device having an address on the list of network addresses.

20           24. The communication network of Claim 14, wherein the authentication controller is further operable to monitor the telecommunication link between the trusted telephone and the untrusted device to determine whether telecommunications being sent by the untrusted device use an appropriate audio format.

25           25. The communication network of Claim 14, wherein the authentication controller is further operable to monitor the telecommunication link between the trusted telephone and the untrusted device to determine whether telecommunications being sent by the untrusted device comprise media streaming.

*Sab*  
*a3*

26. Software embodied in a computer-readable medium and operable to perform the following steps:

receiving a call initiation request from an untrusted device, the call initiation request indicating a desired communication with a trusted Internet Protocol (IP) telephone;

evaluating the call initiation request; and

establishing a telecommunication link between the untrusted device and the trusted IP telephone in response to a positive evaluation of the call initiation request.

10

27. The software of Claim 26, wherein receiving a call initiation request from the untrusted device comprises intercepting a call initiation request at an entry point to a trusted network servicing the trusted IP telephone, the call initiation request sent from outside the trusted network by the untrusted device.

20

28. The software of Claim 26, wherein evaluating the call initiation request comprises determining whether the trusted IP telephone is a proper recipient of a telephone call from an untrusted device.

25

29. The software of Claim 28, wherein determining whether the trusted IP telephone is a proper recipient of a telephone call from an untrusted device comprises determining whether a network address of the trusted IP telephone is included in a list of approved network addresses.

*SAC*  
30. The software of Claim 26, wherein evaluating the call initiation request comprises determining whether a network address of the untrusted device is included in a list of approved network addresses.

5

31. The software of Claim 26, wherein evaluating the call initiation request comprises determining whether the untrusted device is requesting the establishment of media streaming with the trusted IP telephone.

10

32. The software of Claim 26, wherein establishing a telecommunication link between the untrusted device and the trusted IP telephone comprises establishing a telecommunication link using a telephony proxy, whereby all telecommunications between the trusted IP telephone and the untrusted device are communicated through the telephony proxy.

15

33. The software of Claim 32, further operable to monitor the telecommunication link to determine whether the telecommunications being sent by the untrusted device use an appropriate audio format.

20

34. The software of Claim 32, further operable to monitor the telecommunication link to determine whether the telecommunications being sent by the untrusted device comprise media streaming.

*SAC*  
*a3*

35. The software of Claim 32, wherein establishing a telecommunication link between the untrusted device and the trusted IP telephone using the telephony proxy comprises:

5 associating a first logical port of the telephony proxy with the trusted IP telephone;

receiving telecommunication data from the untrusted device at the first logical port;

10 modifying source address information in the received telecommunication data to specify a second logical port of the telephony proxy associated with the untrusted device; and

15 communicating the telecommunication data with the modified source address information to the trusted IP telephone.

36. The software of Claim 35, wherein associating a first logical port of the telephony proxy with the untrusted device comprises associating a User Datagram Protocol (UDP) logical port to enable the streaming of IP 20 packets.

37. The software of Claim 36, wherein modifying the source address information in the received telecommunication data comprises modifying a source IP 25 address and a source port in a header of each IP packet.

*Suit A3*

38. An apparatus for establishing a telephone call between a trusted Internet Protocol (IP) telephone and an untrusted device, the apparatus comprising:

5       an authentication controller operable to evaluate a call initiation request received from an untrusted device external to a trusted network, the call initiation request indicating a desired communication with a trusted IP telephone coupled to the trusted network;

10      a call manager operable to initiate the creation of a telecommunication link between the trusted IP telephone and the untrusted device in response to a positive evaluation of the call initiation request; and

15      a telephony proxy, the telecommunication link between the trusted IP telephone and the untrusted device created using the telephony proxy such that all telecommunications between the trusted IP telephone and the untrusted device are communicated through the telephony proxy.

20      39. The apparatus of Claim 38, wherein the authentication controller comprises a list of addresses of network devices permitted to receive telephone calls from untrusted devices, the authentication controller evaluating a call initiation request positively if the call initiation request indicates a desired communication with a network device having an address in the list of network addresses.

*SAC*

40. The apparatus of Claim 38, wherein the authentication controller comprises a list of network addresses of untrusted devices permitted to communicate with the trusted IP telephone, the authentication controller evaluating a call initiation request positively if the call initiation request originates from an untrusted device having an address on the list of network addresses.

10       41. The apparatus of Claim 38, wherein the authentication controller is further operable to monitor the telecommunication link between the trusted IP telephone and the untrusted device to determine whether telecommunications being sent by the untrusted device use an appropriate audio format.

15       42. The apparatus of Claim 38, wherein the authentication controller is further operable to monitor the telecommunication link between the trusted IP telephone and the untrusted device to determine whether telecommunications being sent by the untrusted device comprise media streaming.

*SAC*  
*w3*

43. The apparatus of Claim 38, wherein the telephony proxy comprises:

a first logical port associated with the trusted IP telephone;

5 a second logical port associated with the untrusted device;

10 an address modification module operable to modify source address information in telecommunication data received at the first logical port from the untrusted device to specify the second logical port of the telephony proxy; and

15 a transmission module operable to communicate the telecommunication data with the modified source address information to the trusted IP telephone.

44. The apparatus of Claim 43, wherein the first and second logical ports are User Datagram Protocol (UDP) logical ports.

20 45. The apparatus of Claim 43, wherein the address modification module is operable to modify a source IP address and port information in a header of an IP packet.